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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,160

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Atsushi Takai

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

SINGH, DALZID E

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,160

Applicant(s)

TAKAI ET AL.

Examiner

Dalzid Singh

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53-62 is/are allowed.
- 6) ☒ Claim(s) 35-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 35-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US Patent No. 4,845,703).

Regarding claims 35 and 46, Suzuki discloses optical transmission system, as shown in Fig. 1, comprising:

an optical frequency conversion unit (30 or 50) for converting said first optical frequency to a second optical frequency (see col. 6, lines 1-21).

Suzuki discloses transmission and reception of optical signal from subscribers or terminals and differs from the claimed invention in that Suzuki does not disclose an optical frequency selection unit for selecting an optical signal of a first optical frequency corresponding to a second apparatus among said plurality of apparatuses from said plurality of optical signals received from said first apparatus. However, Suzuki teaches that the terminal stations (A, B, C and D) have assigned wavelengths (λ_1 , λ_2 , λ_3 and λ_4) (see col. 3, lines 65-68 to col. 4, lines 1-6). The central processor performs path finding operation by selecting one of the selector-converter in accordance with destination station (see col. 4, lines 49-53, lines 66-68 to col. 5, lines 1-4 and Fig. 1). Since each wavelength is assigned to a corresponding terminal station, the selection of

the selector-converter is considered as selection of wavelength (i.e., optical frequency) corresponding to the destination terminal station (apparatus). Therefore, it would have been obvious to indicate the central processor as the optical frequency selection unit for selecting an optical signal of a first optical frequency corresponding to a second apparatus.

Regarding claims 36 and 47, as discussed above, Suzuki discloses the optical frequency selection unit (40) and optical frequency conversion unit (30 or 50) and differs from the claimed invention in that Suzuki does not specifically disclose that the optical signal correspond to a particular apparatus. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to assign specific optical signal to correspond to a particular apparatus or terminal.

Regarding claims 37 and 48, as shown in Fig. 2, Suzuki discloses a wavelength demultiplexer (20) for demultiplexing said plurality of optical signals which are transmitted in a multiplexed manner on an optical transmission line connecting said first apparatus and said transmission apparatus.

Regarding claims 38 and 49, as shown in Fig. 2, Suzuki discloses a wavelength multiplexer (10) for multiplexing a plurality of optical signals each having said second optical frequency.

Regarding claims 39 and 50, as shown in Fig. 2, Suzuki discloses a control unit (60) for allotting frequency to apparatus and indicating to said optical frequency conversion unit that said second optical frequency is allotted to the apparatus.

Regarding claims 40 and 51, Suzuki discloses that the control unit is notified from said apparatus that said optical frequency corresponds to apparatus, and said control unit indicates to said optical frequency selection unit that said optical frequency corresponds to said apparatus (see col. 5, lines 16-35 and col. 6, lines 1-21, lines 62-68 to col. 7, lines 1-40; optical signal is selected based on the address location of the optical signal which is transmitter from a source station to a destination station) and differs from the claimed invention in that Suzuki does not specifically disclose that the optical signal correspond to a particular apparatus. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to assign specific optical signal to correspond to a particular apparatus or terminal.

Regarding claims 41 and 52, as discussed above, Suzuki discloses a control unit for allotting frequency to said apparatuses and indicating to said optical frequency conversion unit that said optical frequency is allotted to said second and this apparatuses (see col. 5, lines 16-35 and col. 6, lines 1-21, lines 62-68 to col. 7, lines 1-40; it would have been obvious that in determining idle channel, the control unit determined that a particular wavelength is allotted to a particular apparatus).

Regarding claim 42, Suzuki discloses optical transmission system, as shown in Fig. 2, comprising:

an optical frequency conversion unit (30 or 50) for converting said optical frequency of said optical signal transmitted from apparatus to optical frequency corresponding to apparatus.

Suzuki discloses transmission and reception of optical signal from subscribers or terminals and differs from the claimed invention in that Suzuki does not specifically disclose that the optical signal correspond to a particular apparatus. However, Suzuki teaches that the terminal stations (A, B, C and D) have assigned wavelengths (λ_1 , λ_2 , λ_3 and λ_4) (see col. 3, lines 65-68 to col. 4, lines 1-6). The central processor performs path finding operation by selecting one of the selector-converter in accordance with destination station (see col. 4, lines 49-53, lines 66-68 to col. 5, lines 1-4 and Fig. 1). Since each wavelength is assigned to a corresponding terminal station, the selection of the selector-converter is considered as allotting of wavelength (i.e., optical frequency) to be transmitted from a terminal station (apparatus). Therefore, it would have been obvious to indicate the central processor as the control unit for allotting first optical frequency to an optical signal to be transmitted from second apparatus.

However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to assign specific optical signal to correspond to a particular apparatus or terminal. For example, a new optical signal can be assign to a particular apparatus to carry specific bandwidth. One of ordinary skill in the art would have been motivated to do such in order to provide reliable communication system.

Regarding claim 43, Suzuki discloses that the control unit allot said optical frequency to each of optical signals to be transmitted from said apparatus and a this apparatus among said plurality of apparatuses, and said optical frequency conversion unit convert said first optical frequency (see col. 5, lines 16-35 and col. 6, lines 1-21, lines 62-68 to col. 7, lines 1-40; optical signal is selected based on the address location

of the optical signal which is transmitter from a source station to a destination station) and differs from the claimed invention in that Suzuki does not specifically disclose that the optical signal correspond to a particular apparatus. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to assign specific optical signal to correspond to a particular apparatus or terminal..

Regarding claim 44, as shown in Fig. 2, Suzuki discloses a wavelength multiplexer (10) for multiplexing said optical signal of said optical frequency and said optical signal of said another optical frequency.

Regarding claim 45, as shown in Fig. 2, Suzuki discloses that the control unit (60) is notified from said apparatus that said optical frequency corresponds to said another apparatus (see col. 5, lines 16-35 and col. 6, lines 1-21, lines 62-68 to col. 7, lines 1-40; it would have been obvious that in determining idle channel, the control unit determined that a particular wavelength is allotted to a particular apparatus).

Allowable Subject Matter

3. Claims 53-62 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

Claims 53 is allowed because the prior art of record do not teach or suggest a transmission apparatus connected to an optical signal transmission line, first network and second network, comprising:

an optical frequency selection unit for selecting a first optical signal of a first optical frequency and a second optical signal of a second optical frequency among an optical frequency division multiplexed signal received from said optical signal transmission line and transmitting said selected first and second optical signals separately,

a first optical frequency conversion unit connected to said optical frequency selection unit and said first network for converting a frequency of said first optical signal from said first optical frequency to a third optical frequency and transmitting an optical signal of said third optical frequency toward said first network,

a second optical frequency conversion unit connected to said optical frequency selection unit and said second network for converting a frequency of said second optical signal from said second optical frequency to said third optical frequency and transmitting an optical signal of said third optical frequency toward said second network,

wherein said first optical frequency is allotted for transmissions of signals from said optical transmission line to said first network, said second optical frequency is allotted for transmissions of signals from said optical transmission line to said second network, and

said third optical frequency is allotted for transmissions of signals from said transmission apparatus to said first and second networks.

Claims 59 is allowed because the prior art of record do not teach or suggest a transmission apparatus connected to an optical signal transmission line and further connected to first and second networks, comprising:

an optical divider for dividing an optical frequency division multiplexed signal received from said optical signal transmission line into a first optical frequency division multiplexed signal and a second optical frequency division multiplexed signal,

a first optical frequency selection unit receiving said first optical frequency division multiplexed signal for selecting a first optical signal of a first optical frequency among said first optical frequency division multiplexed signal and transmitting said selected first optical signal,

a second optical frequency selection unit receiving said second optical frequency division multiplexed signal for selecting a second optical signal of a second optical frequency among said second optical frequency division multiplexed signal and transmitting said selected second optical signal,

a first optical frequency conversion unit connected to said first optical frequency selection unit and said first network for converting a frequency of said first optical signal from said first optical frequency to a third optical frequency and transmitting an optical signal of said third optical frequency toward said first network, and

a second optical frequency conversion unit connected to said second optical frequency selection unit and said second network for converting a frequency of said second optical signal from said second optical frequency to said third optical frequency

and transmitting an optical signal of said third optical frequency toward said second network.

Response to Arguments

5. Applicant's arguments with respect to claim 35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS
12/29/05
Dalzid Singh